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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,643	02/26/2002	Vinod Asundi	21272-502	1038
7590	07/20/2006		EXAMINER	
Petrina S. Hsi HYSEQ, INC. 670 Almanor Avenue Sunnyvale, CA 94085			ZHOU, SHUBO	
			ART UNIT	PAPER NUMBER
			1631	

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/084,643	ASUNDI ET AL.	
	Examiner Shubo (Joe) Zhou	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 10,11 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) 10-11 and 20 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: See Continuation Sheet.

**Continuation of Attachment(s) 6. Other: Raw Sequence Listing Error Report.**

## DETAILED ACTION

### Restriction/Election Requirement

The claims of this application have been amended in a preliminary amendment filed 9/18/02. Claims 10-11 and 20 are currently pending.

Independent claim 10 is drawn to an isolated “polypeptide encoded by the polynucleotide of 785 SEQ ID NO:2715,” and independent claim 20 is drawn to a “polypeptide encoded by the polynucleotide comprising a nucleic acid sequence which is 95% identical to the nucleic acid sequence of 785 SEQ ID NO:2715.”

The claim language is confusing as to what is meant by “785 SEQ ID NO:2715,” but it appears that multiple sequences are claimed.

The MPEP 803.04 states:

*Nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute independent and distinct inventions with the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq. Examination will be restricted to only the elected sequence.*

Since the claims are drawn to polypeptides, applicants must elect a single amino acid sequence and/or a single polynucleotide sequence that encodes the polypeptide sequence.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR § 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Sequence Rule Compliance***

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR § 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR § 1.821 through 1.825 because the computer readable form (CRF) of the sequence listing is defective. See the attached "Raw Sequence Listing Error Report." A new CRF and a statement under 37 CFR 1.821(f) are required. Applicants are given the same response time regarding this failure to comply as that set forth to respond to this Office action. Failure to respond to this requirement may result in abandonment of the instant application or a notice of a failure to fully respond to this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shubo (Joe) Zhou, whose telephone number is 571-272-0724. The examiner can normally be reached Monday-Friday from 8 A.M. to 4 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

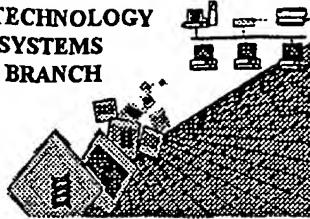
Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is

(866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Shubo (Joe) Zhou, Ph.D.  
Patent Examiner



*744-03-2*  
BIOTECHNOLOGY  
SYSTEMS  
BRANCH



## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/084,643B  
Source: OIPR  
Date Processed by STIC: 7/18/2003

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 04/24/2003



OIPE

RAW SEQUENCE LISTING  
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7           Asundi, Vinod
8           Drmanac, Radoje T.
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16 <140> CURRENT APPLICATION NUMBER: 10/084,643B
17 <141> CURRENT FILING DATE: 2002-02-26
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Does Not Comply  
Corrected Diskette Needed

*ppr 2-4,6,9-13*

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DATE: 07/18/2003  
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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,643B

DATE: 07/18/2003  
TIME: 15:59:23

Input Set : E:\pt\_SEQ.502.txt  
Output Set: N:\CRF4\07182003\J084643B.raw

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,643B

DATE: 07/18/2003  
TIME: 15:59:25

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,643B

DATE: 07/18/2003  
TIME: 15:59:26

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Output Set: N:\CRF4\07182003\J084643B.raw

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,643B

DATE: 07/18/2003  
TIME: 15:59:26

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RAW SEQUENCE LISTING DATE: 07/18/2003  
 PATENT APPLICATION: US/10/084,643B TIME: 15:59:27

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## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/084,643B

DATE: 07/18/2003

TIME: 15:59:49

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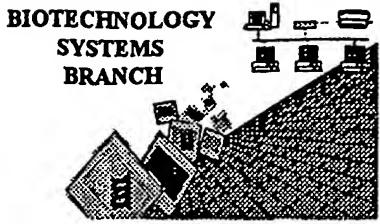
L:146 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
M:341 Repeated in SeqNo=2  
L:200 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:120  
L:233 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:660  
M:341 Repeated in SeqNo=5  
L:383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
M:341 Repeated in SeqNo=11  
L:412 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:360  
M:341 Repeated in SeqNo=12  
L:477 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0  
M:341 Repeated in SeqNo=14  
L:812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:420  
L:839 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:360  
L:933 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:2460  
M:341 Repeated in SeqNo=23  
L:1019 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:120  
M:341 Repeated in SeqNo=25  
L:1073 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:540  
M:341 Repeated in SeqNo=27  
L:1149 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:240  
L:1200 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:240  
M:341 Repeated in SeqNo=31  
L:1244 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:1080  
L:1322 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:240  
M:341 Repeated in SeqNo=35  
L:1435 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:360  
L:1492 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:540  
L:1703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0  
M:341 Repeated in SeqNo=49  
L:1765 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0  
M:341 Repeated in SeqNo=51  
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VERIFICATION SUMMARY  
PATENT APPLICATION: US/10/084,643B

DATE: 07/18/2003  
TIME: 15:59:49

Input Set : E:\pt\_SEQ.502.txt  
Output Set: N:\CRF4\07182003\J084643B.raw

L:3516 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:106 after pos.:0  
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M:254 Repeated in SeqNo=90222  
L:2955333 M:252 E: No. of Seq. differs, <211> LENGTH:Input:2401 Found:2400 SEQ:90222  
L:3979361 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
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L:104 M:203 E: No. of Seq. differs, <160> Number Of Sequences:Input (158) Counted (158931)



## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/084,643A  
Source: OIPE  
Date Processed by STIC: 5/7/2003

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2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
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Revised 04/24/2003



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PATENT APPLICATION: US/10/084,643A

DATE: 05/07/2003  
TIME: 14:43:54

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Output Set: N:\CRF4\05072003\J084643A.raw

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6 <110> APPLICANT: Tang, Y. Tom
7           Asundi, Vinod
8           Drmanac, Radoje T.
11 <120> TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES
14 <130> FILE REFERENCE: 21272-502
16 <140> CURRENT APPLICATION NUMBER: 10/084,643A
17 <141> CURRENT FILING DATE: 2002-02-26
20 <150> PRIOR APPLICATION NUMBER: 09/989,660
21 <151> PRIOR FILING DATE: 2001-11-21
23 <150> PRIOR APPLICATION NUMBER: 10/014,487
24 <151> PRIOR FILING DATE: 2001-11-08
26 <150> PRIOR APPLICATION NUMBER: 09/952,981
27 <151> PRIOR FILING DATE: 2001-09-14
29 <150> PRIOR APPLICATION NUMBER: 09/922,279
30 <151> PRIOR FILING DATE: 2001-08-03
32 <150> PRIOR APPLICATION NUMBER: 09/905,059
33 <151> PRIOR FILING DATE: 2001-07-12
35 <150> PRIOR APPLICATION NUMBER: 09/898,888
36 <151> PRIOR FILING DATE: 2001-07-03
38 <150> PRIOR APPLICATION NUMBER: 09/919,002
39 <151> PRIOR FILING DATE: 2001-07-30
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Does Not Comply  
Corrected Diskette Needed

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4884739	ctatTTTtat cattatttgg ggTTgaaaaa atTTTTTTT tacacCTTt aatttctta	780
4884740	tttctcaag cagataatta ttctgtgtga aaatgttttC ttttttaat ttaaggTTTA	840
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## **RAW SEQUENCE LISTING**

PATENT APPLICATION: US/10/084,643A

DATE: 05/07/2003

TIME: 14:47:51

Input Set : E:\pt SEQ.502

Output Set: N:\CRF4\05072003\J084643A.raw

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RAW SEQUENCE LISTING  
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5005993	cagacctggg cgggctccca ctccatgagg tatttctaca cttccgtgtc cggcccccggc	120
5005994	cgcggggagc cccgcttcat cgccgtggc tacgtggacg acacgcgtt cgtcggttc	180
5005995	gacagcgcacg ccgcgagcca gaggatggg cccgcggcgc cgtggataga gcaggagggg	240
5005996	ccggagtatt gggaccggaa cacacggaaat gtgaaggccc actcacagac tgaccgagtg	300
5005997	gacctggggc ccctgcgcgg ctactacaac cagacgcagg cccgttctca caccatccag	360
5005998	atgtatgtatg gctgcacgt ggggtcgac gggcgcttcc tccgcgggtt cccgcaggac	420
5005999	gcctacgcacg gcaaggattt catgcctctg aaagaggacc tgcgtctttg gaccgcggcg	480
5006000	gacatggcag ctcagaccac caagcacaag tgggaggcgg cccatgtggc ggacgcgtgg	540
5006001	agagcctacc tggaggggcac gtgcgtggag tggctccgca gatacctgaa gaacggaaag	600
5006002	gagacgcgtgc aggcgcacggc cgcccccaaa acgcataatgaa ctcaccacgc tgcgtctgtac	660
5006003	catgaagcca ccctgagggt ctggccctgt agcttctacc ctgcggagat cacactgacc	720
5006004	tggcagcggg atggggagga ccagacccag gacacggac tcgtggagac caggcctgca	780
5006005	ggggatggaa cttccagaa gtgggtggct gtgggtggc cttctggaca ggacgcagaga	840
5006006	tacacctgca atgtgcacca tgagggtttt cccaaaggcccc tcaccctgag atgggagccg	900
5006007	tctccccagc ccaccatccc catgtggggc atcattgtgt gcctgggttct cttggagct	960
5006008	gtgtactgtgt gactgtgtgtt atgtggagga ggaagacgtc agatagaaaa	1020

P.||

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,643A

DATE: 05/07/2003  
TIME: 14:47:54

Input Set : E:\pt\_SEQ.502  
Output Set: N:\CRF4\05072003\J084643A.raw

E--> 5006009	ggagggagct actctcaggc tgcaaggagt gacagtgcggc agggtctgta ttttgtcttla	1080
E--> 5006010	naagenetnm pltecdsle nhcmosapien satggccgt catggcgccc cgaaccctcc	1140
5006011	tcttgcatac ctcggggggcc ctggccctga cccacacctg ggccgggtcc cactccatga	1200
5006012	gttatttctt cacatccgtg tcccgccccg gcagtggaga gccccgttcc atcgcatgg	1260
5006013	gctacgtgga cgacacgcag ttctgtcggt tcgacagcga cgccgcgagc cagaggatgg	1320
5006014	agccgcgggc gccgtggata gacgggaga ggcctgagta ttgggaccag gagacacgga	1380
5006015	atgtgaaggc ccagtcacag actgaccggag tggaccttgg gaccctgcgc ggctactaca	1440
5006016	accagagcga ggccgggttct cacaccatcc agataatgta tggctgcgc acgtgggtcgg	1500
5006017	acggggcgtt cctccgcggg tatgaacagc acgcctacga cggcaaggat tacatcgccc	1560
5006018	tgaacgagga cctgcgtct tggaccggcgg cggacatggc ggctcagatc acccagcga	1620
5006019	agtgggaggc ggcccgttgg gcggagcgt tgagagccta cctggagggc acgtgcgtgg	1680
5006020	agtggctccg cagatactg gagaacggga aggagacgt gcagcgcacg gacccccc	1740
5006021	agacacatat gacccaccac cccatctctg accatgaggc caccctgagg tgctggggcc	1800
5006022	tgggttctta ccctgcggag atcacactga cctggcagcg ggatggggag gaccagaccc	1860
5006023	aggacacggc gctcggtgg accaggcctg cagggatgg aaccttccag aagtggcg	1920
5006024	ctgtgggtgt gccttctgaa gaggagcaga gatacacctg ccatgtgcag catgagggtc	1980
5006025	tgcccaagcc ctcacccctg agatggggac tgccttcca gcccaccat cccatcggt	2040
5006026	gcatcattgc tggcttgggtt ctccttggag ctgtgatcac tggagctgtg gtcgctgcc	2100
5006027	tgtatgtggag gaggaaagac tcagatagaa aacggacgc cccaaaacg catatgactc	2160
5006028	accacgtgt ctctgaccat gaagccaccc tgaggtgtc ggccctgagc ttctaccctg	2220
5006029	cggagatcac actgacccctg cagcggatgg gggaggacca gaccaggac acggagctcg	2280
5006030	tggagaccag gcctgaaggg gatggAACCT tccagaatgt ggccgtgtg gtgggtcctt	2340
5006031	ctggacagga gcagagatac acctgcctat tgcagcatga gggtttgc aagccctca	2400
5006032	ccctgagatg ggagccgtt tcccgccca ccatccccat cgtggcatac attgctggcc	2460
5006033	tgggttctt tggagctgtg atcaactggag ctgtggcgc tgctgtatg tggaggagga	2520
5006034	agagctcaga tagaaaagga gggagctact ctcaggctgc aagcagtgc agtgcccagg	2580
5006035	gctctgatgt gtctctaca gcttgtaaag tgtga	2615
5006083	<210> SEQ ID NO: 149106	
5006084	<211> LENGTH: 3104	
5006085	<212> TYPE: DNA	
5006086	<213> ORGANISM: Homo sapiens	
5006088	<220> FEATURE:	
5006089	<221> NAME/KEY: misc_feature	
5006090	<222> LOCATION: (1)...(3104)	
5006091	<223> OTHER INFORMATION: n = a,t,c or g	
5006097	<400> SEQUENCE: 149106	
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5006099	ttaactctat aacctctat ggcagaatt tgagaaatg aatttatact caggTTCTAA	120
5006100	tttaatagg gaaggaagaa ttacatgtc agtgcaccat gaatTTGAGA cagagatgg	180
5006101	gacacccatcg cccacccctt ctggAACAGG aaagatgatt ggagagggg cacaggTCAG	240
5006102	cgtggaaaga gggTCATGGT ggacatcgGGG ttgggggtgt ctccccaccc ctcacatta	300
5006103	tgcctacacg aacacagaca catgcagggt ccttgcaga aacaaagtca gggTTCTCA	360
5006104	agtcaaaaaag ggaaggcag gaacaactt tgcctctcg tcccacacaa ggcagCTGTC	420
5006105	tcacacttta caagctgtgaa gagacacatc agacccctgg gcaactgtc ac tgcTTGAGC	480
5006106	ctgaagagcc ctgggcactg tcactgtttc cagcctgaga ttagctccct cttttctat	540
5006107	ctgagctttt ctcctccac atcacagcag cgaccacagc tccagtgtac acagctccaa	600
5006108	agagaaccag gccagcaatg atgcccacga tggggatggt gggctggaa gacggctccc	660
5006109	atctcagggtt gaggggctt ggcaaaacccat catgctgcac atggcagggt tatctctgt	720
5006110	cctgtccaga aggcaccacc acagccgccc acttctggaa ggttccatcc cctgcaggcc	780

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RAW SEQUENCE LISTING DATE: 05/07/2003  
 PATENT APPLICATION: US/10/084,643A TIME: 14:47:54

Input Set : E:\pt\_SEQ.502  
 Output Set: N:\CRF4\05072003\J084643A.raw

5006111	tggtctccac gagctccgtg tcctgggtct ggtcctcccc atcccgtgc caggtca	840
5006112	tgatctccgc aggtagaag ctcaaggccc agcacccatcg ggtggctca tggtcaga	900
5006113	cagcgtggtg agtcatatgc gtttggggg cgtccgtgc ctgcagcg tccttccgt	960
5006114	tctccaggta tctcgccgac cactccacgc acgtgccctc cagtaggc ctcaactg	1020
5006115	ccgcctcatg ggccgcctcc cacttgtct tgggtgtcg agtcgcatt tccgcgcgg	1080
5006116	tccaagagcg caggtccctt ttcaaggcga tgtaatccct gccgtcgtag gcgtactgg	1140
5006117	ggtacccgcg gaggaaagcgc cagtcgcacc ccacgtcga gccatacatt ctctggacgg	1200
5006118	tgtgagaacc ggccctcgctc tgggtgttagt agccgcgcag ggtccccagg tccactcggt	1260
5006119	gagtctgtga gtgggccttc actttccgtg tctcccgat ccaatactcc ggaccctcct	1320
5006120	gctctatcca cggcgcggc ggctccatcc tctggctcg ggcgtcgctg tcgaaccgca	1380
5006121	cgaactgcgt gtcgtccacg tagcccaactg cgatgaagcg gggtccccc cggccggcc	1440
5006122	gggacacgga tgtgaagaaa tacctcatgg agtgagagcc cggccaggc tgggtcaagg	1500
E--> 5006123	ccagagcccc cgagagtagc aggacgagggt ttcggggcgc catgacsnei <del>nts</del> mohctc	1560
5006124	acattatgcc tacacgaaca cagacacatcg caggtgcct tgcagaaaca aagtca	1620
5006125	tcttcaggta acaaaggaa gggcaggAAC aactcttgc tctcagtccc acacaaggca	1680
5006126	gctgtctcac acttacaag ctgtgagaga cacatcagag ccctgggcac tgcactg	1740
5006127	tgccgtctga gagtagctcc tcctttct atctgagtc ttcctctcc acatcacagc	1800
5006128	agcgaccaca gctccagtga tcacagctcc aaagagaacc aggccagcaa tgatgccc	1860
5006129	gatggggatg gtgggtggg aagacggcgc ccatctcagg gtgaggggct tggcaaaacc	1920
5006130	ctcatgctgc acatggcagg tgtatctctg tcctgtcca gaaggcacca ccacagccgc	1980
5006131	ccacttctgg aaggttccat cccctgcagg cctggctcc acgagctccg tgcctgggt	2040
5006132	ctgggtctcc ccatcccgat gccaggctcg tgcgtatcc gcaggtaga agtcagg	2100
5006133	ccagcacctc agggtggtt catggtcaga gacagcgtgg tgagtcatat gctttttgg	2160
5006134	ggcgtccgtg cgctgcacg tctcttccc gttctccagg tatctgcgg gccactccac	2220
5006135	gcacgtgccc tccaggtagg ctctcaactg ctccgcaca tggccgcct cccacttgc	2280
5006136	cttgggtggtc tgagctgcca tgccggccgc ggtcaagag cgcaaggctc tttcagg	2340
5006137	gatgtaatcc ttggcgtcg aggctactg tggttacccg cggaggaagc gccagtcga	2400
5006138	ccccacgtcg cagccataca tcctctggac ggtgtgagaa cccgcctcg tctgggtgt	2460
5006139	gtagccgcgc agggccccca ggtccactcg gtcaatctgt gatgggcct tcaacttcc	2520
5006140	tgtctccccc tcccaatact ccggaccctc ctgcgtatcc cacggcgc cggcgtccat	2580
5006141	cctctggctc gcccgtcgat tcaggcgat gtaatccctg cgcgtcagg cgactgtg	2640
5006142	gtacccgcgg aggaagcgcc agtccgaccc cacgtcgacg ccatacatcc tctggacgg	2700
5006143	gtgagaaccg tcctcgctct ggtgttaga gccgcgcagg gtcccccagg tgcgtcg	2760
5006144	agtcgtgag tggccttca cattccgtgt gttccggtcc caatactccg gcccctcc	2820
5006145	ctctatccac ggcgcggcgc gtcctatcc tcggctcg ggcgtcgctgt cgaaccgcac	2880
5006146	gaactgcgtg tcgtccacgt agcccacggc gatgaagcg ggcccccgc gggccggcc	2940
5006147	ggacacggag gtgtaaaaat acctcatgg gttggagccc gcccaggct gggtcagg	3000
5006148	caggcccccc gagagtagca ggacgagggt tcggggcgcc atgacggcca tccctggcgt	3060
5006149	ctggggagaa tctgagttcc ggtgggtcg tgcggactt agaa	3104
5033063	<210> SEQ ID NO: 149925	
5033064	<211> LENGTH: 1166	
5033065	<212> TYPE: DNA	
5033066	<213> ORGANISM: Homo sapiens	
5033068	<220> FEATURE:	
5033069	<221> NAME/KEY: misc_feature	
5033070	<222> LOCATION: (1)...(1166)	
5033071	<223> OTHER INFORMATION: 'n' = a,t,c or g	
5033077	<400> SEQUENCE: 149925	
5033078	cgcacctnuc caagtatatac tgtaaaaatc aagattcgat ctccagtaaa ctgaagaaat	60

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/084,643A

DATE: 05/07/2003

TIME: 14:47:56

Input Set : E:\pt\_SEQ.502

Output Set: N:\CRF4\05072003\J084643A.raw

5033079	gctgtgaaaa acctctgtt gaaaaatccc actgcattgc cgaagtggaa aatgatgaga	120
5033080	tgcctgctga cttgccttca ttagctgtg attttgttga aagaaggat gttgcaaaa	180
5033081	actatgctga ggcaaaggat gtcttcctgg gcatgtttt gtatgaatat gcaagaaggc	240
5033082	atcctgatta ctctgtcggt ctgctgctga gacttgccaa gacatgttgc accactctag	300
5033083	agaagtgtcg tgccgctgca gatcctcatg aatgctatgc caaatgttgc gatgttgc	360
5033084	aacctcttgtt ggaagagcct cagaatttaa tcaaacaatggatgttgc ttgttgc	420
E--> 5033085	ttggagagta caaattccag quagtttcca aqtttagtgc agatcttace aaagtccaca	480
5033086	cggaaatgctg ccatggagat ctgttgcgtt gttgtatgtc cagggcggac cttgccaagt	540
5033087	atatctgtga aaatcaagat tcgatcttca gtaaaactgaa ggaatgtctgt gaaaaaccc	600
5033088	tgttggaaaa atccccactgc attggccgaag tggaaaatgttgc tgatgttgc gctgacttgc	660
5033089	cttcatttgc tgctgtttt gttgaaatgttgc aggtatgttgc caaaaactat gctgaggca	720
5033090	aggatgttgc cctggccatg tttttgtatgttgc aatatgtcaag aaggcatctt gattactctg	780
5033091	tcgtgctgtc gctgagactt gccaagacat atgaaaccac tctagagaatggatgttgc	840
5033092	ctgcagatcc tcatgtatgc tatgttgc ttttcgtatgttgc attttaaacctt cttgttgc	900
5033093	agcctcagaa tttatcaaaa caaaatgttgc agcttttgc gcaatgttgc gatgttgc	960
5033094	tccagaatgc gctattatgtt cgttacacca agaaatgttgc ccaatgttgc actccaaactc	1020
5033095	ttgttagaggt ctcaagaaaaa cctaggaaaaa gtggccatgttgc aatgttgc acatcttgc	1080
5033096	agaaaaaaa aatgttgc ttttcgtatgttgc ctatcttgc gtggccatgttgc accatgttgc	1140
5033097	tngtgtttgc atgaaaaaaa cnccgt	1166

Use of n and/or Xaa has been detected in the Sequence Listing.  
 Review the Sequence Listing to insure a corresponding  
 explanation is presented in the <210> to <223> fields of  
 each sequence listing or Xaa.

Use of n and/or Xaa has been detected in the Sequence Listing.  
 Review the Sequence Listing to insure a corresponding  
 explanation is presented in the <210> to <223> fields of  
 each sequence listing or Xaa.

## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/084,643A

DATE: 05/07/2003

TIME: 14:48:17

Input Set : E:\pt\_SEQ.502

Output Set: N:\CRF4\05072003\J084643A.raw

L:146 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
M:341 Repeated in SeqNo=2  
L:200 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:120  
L:233 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:660  
M:341 Repeated in SeqNo=5  
L:383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
M:341 Repeated in SeqNo=11  
L:412 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:360  
M:341 Repeated in SeqNo=12  
L:477 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0  
M:341 Repeated in SeqNo=14  
L:812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:420  
L:839 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:360  
L:933 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:2460  
M:341 Repeated in SeqNo=23  
L:1019 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:120  
M:341 Repeated in SeqNo=25  
L:1073 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:540  
M:341 Repeated in SeqNo=27  
L:1149 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:240  
L:1200 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:240  
M:341 Repeated in SeqNo=31  
L:1244 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:1080  
L:1322 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:240  
M:341 Repeated in SeqNo=35  
L:1435 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:360  
L:1492 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:540  
L:1703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0  
M:341 Repeated in SeqNo=49  
L:1765 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0  
M:341 Repeated in SeqNo=51  
L:1799 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:360  
M:341 Repeated in SeqNo=52  
L:2071 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:0  
M:341 Repeated in SeqNo=61  
L:2136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63 after pos.:360  
L:2159 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:64 after pos.:120  
M:341 Repeated in SeqNo=64  
L:2184 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:65 after pos.:0  
M:341 Repeated in SeqNo=65  
L:2387 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73 after pos.:360  
M:341 Repeated in SeqNo=73  
L:2710 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85 after pos.:360  
L:3035 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93 after pos.:0  
M:341 Repeated in SeqNo=93  
L:3062 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:94 after pos.:0  
M:341 Repeated in SeqNo=94  
L:3179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:96 after pos.:2160

VERIFICATION SUMMARY DATE: 05/07/2003  
PATENT APPLICATION: US/10/084,643A TIME: 14:48:17

Input Set : E:\pt\_SEQ.502  
Output Set: N:\CRF4\05072003\J084643A.raw

L:3516 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:106 after pos.:0  
L:3596 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:109 after pos.:420  
L:2955329 M:254 E: No. of Bases conflict, LENGTH:Input:2220 Counted:2219 SEQ:90222  
M:254 Repeated in SeqNo=90222  
L:2955333 M:252 E: No. of Seq. differs, <211> LENGTH:Input:2401 Found:2400 SEQ:90222  
L:3979361 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:4884736 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:4951754 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:4957275 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:7  
L:4983769 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:5004861 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:5004862 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:4  
L:5006009 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:5006010 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:14  
L:5006123 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:5  
L:5033085 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:104 M:203 E: No. of Seq. differs, <160> Number Of Sequences:Input (158) Counted (158931)